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> Means-centered scientists tend, in spite of themselves, to fit their problems to their techniques rather than the contrary. Their beginning question tends to be which problems can I attack with the techniques and equipment I now possess? Rather than what it should more often be, which are the most pressing, the most crucial problems I could spend my time on?[1]

Since World War II economics has become highly mathematical; so mathematical that mathematics is today the chief means of analysis used by economists. Does this mean that economists have become means-centered scientists? If so, has this dictated the problems attached, and, worse yet, dictated the theories accepted? "Modern physics has had a profound influence on almost all aspects of human society."[2] Economic theory, more than theory in the other social sciences, has been modeled on that of physics. But, while economists have adopted physics' Newtonian concepts for describing the macro world and so have established "fixed eternal laws of social mechanics,"[3] they have not adopted physicists' regard for empirical verification. Some economists give the impression that they have ignored the fact that simply becoming more mathematical adds nothing to our knowledge of economic phenomena. Yet, economic phenomena are the raison d'etre for the science of economics.

Economists' mathematical tools are handy for dealing with maximizing models, but "whether or not entrepreneurs in general maximize profits can only be determined empirically."[4] Thus , it seems reasonable to question whether profit-maximizing models are used simply because this is an easy way to attack allocation problems or because empirical evidence proves that profit maximization is the basis upon which allocations are made.

Profits are either universally maximized, or they are not. If individuals do not maximize profits it could be because individuals do not maximize or because the utility function maximized includes more than profits. Profit maximization might be sought, but inappropriate actions taken. "The main argument against the maximization postulate is an empirical one – namely, people frequently do not maximize."[5]

That such a fundamental postulate remains unproven seems strange, as it is not difficult to observe individual and group behavior. "Also, we can submit individuals to questionnaire surveys. . ."[6] Via a questionnaire we can investigate whether firms and/or individuals maximize profits and, if not, why not. Many economists have offered us possible reasons for profits not being maximized which can be investigated by those prosaic enough to engage in such work.

Non-maximizing Behavior

A variety of reasons have been presented for supposing that some firms fail to practice profit maximization. The small firm, it is said, may not maximize profits because this would require that the owner-manager give up some control of the firm, and control is more important to some people than making more money. The owner's control may also be reduced because profit maximization would require obtaining additional equity or debt funds or delegating managerial authority to persons with skills and knowledge the owner-manager lacks. The introduction of partners, major creditors, and other managers reduces the owner-manager's control.

In the case of the large corporation a divorce of ownership from control is often cited as a reason for the failure of a firm to maximize profits. The firm's managers, even if they own some stock, may find that they are best served by salary and other expenses they benefit from being maximized instead of profits. Even if some dumping of such firms' stocks ultimately forced their professional managers to maximize profits, there would always be firms around which had not yet been forced to maximize profits or had fallen back into their old ways; thus, at no point in time would all firms be trying to maximize profits.

Obviously, there is a difference between seeking and obtaining profit maximization. A firm seeking to maximize profits which always fails to take the actions necessary to maximize profits is behaving like a firm which isn't trying to maximize profits. For example, there is no difference in the behavior of the small firm which doesn't consider entering a new field because the owner gains so much utility working in the firm's current field and the small firm which doesn't consider entering a new field because its owner doesn't realize that profits cannot be maximized unless all alternative investments are considered.

The Questionnaire

The people who run businesses best know what their motivations are, but they may not be willing to reveal them. Clearly, they cannot objectively evaluate themselves. Because it appears tbat Certified Public Accountants (CPAs) know more about the motivations and behavior of those who run businesses than do any other outsiders and are relatively capable and objective judges, 250 questionnaires were sent to Georgia CPAs by the author and a colleague, Frank Boozer, utilizing a research grant from West Georgia College. Each national CPA partnership operating in Georgia was sent a questionnaire. Other firms were selected randomly from a list of CPAs provided by the Georgia Society of Certified Public Accountants. Eighty-three responses were obtained.

Some of the questions and respondents' replies are shown in Exhibit One.

In order to determine whether or not non-profit maximizing behavior exists among individuals, respondents were queried about small businesses, which are usually owner-managed. (Respondents reported that over 80 percent of small businesses are owner-managed.) To be certain that the respondents had experience with small businesses, they were asked how many years of such experience they had. All had experience with small businesses, and most also had experiences with larger firms. Other reasons for considering small businesses rather than large businesses were the more intimate relationship between the firm's owner and the CPA and the greater likelihood that the CPA would be familiar with all the business' financial data. A small business was defined as being independently owned; employing 25 or fewer people and/or annual sales of $3 million or less; and not a professional organization like lawyers and physicians.

The Response

The first question seeks to determine the prevalence of profit maximization and the importance of some reasons for firms not seeking maximum profits. The response suggests that a significant number of small businesses do not seek to maximize profits. Many firms seek only an "adequate" profit, but most do see profit maximization.

"Tax shelter" was explained to mean that "the firm generates a tax loss so that its owner(s) escape taxation on income from other sources." "Hobby" was explained as "owner(s) run this hobby-related business in order to cover some of the costs of a personal hobby." "Adequate profit" was explained as "owner(s) seek profit but clearly do not seek to maximize it. Perhaps doing this would mean they would have less control of the business, work harder than they wish to, etc." "Maximum profit" was explained as "prime objective of owner(s) is clearly to achieve as large a profit as is possible at an acceptable risk level."

Those businesses operated in order to obtain a tax shelter may or may not be owned by people seeking to maximize their total profit from all businesses owned. Those operating a business because of a hobby are clearly not out to maximize profits. Relatively few businesses appear to fall into these two categories.

There was a great deal of diversity in the respondents' estimates. Nine said that every firm seeks to maximize profits. On the other hand, two said no firms seek to maximize profits, and twenty-two said that more firms seek adequate profits than seek maximum profits. Some of these twenty-two believe a great many more firms seek adequate profits than maximum profits. One respondent said half seek adequate profits and half seek maximum profits.

Actually earning a maximum profit is, at a minimum, made more difficult if you do not know with a high degree of accuracy what your return on equity is. The failure to make use of appropriate financial data also reduces the likelihood of achieving a maximum profit. This is why questions two and three were asked.

More than three-fourths of the respondents believe that the typical small business owner does not know what his or her rate of return on equity really is. Respondents are also not overly impressed with the typical small business owner's understanding of user-oriented basic accounting concepts. Thus, it seems reasonable to question many owner-manager's ability to achieve profit maximization on the basis that he or she doesn't know enough about what is going on to do so.

Analyzing businesses' profit motives and performance is facilitated by knowing what their profits are. The Internal Revenue Service is the best source of this information, but how accurate is their data? The response to the fourth question suggests that the degree of accuracy is not high.

If small businesses often don't seek profit maximization, but are more profitable than larger businesses, some doubt is cast on the assumption that larger businesses seek to maximize profits, as the motive for forming a larger firm would be to maximize profits. The response to the fifth question shows that most respondents think the return on equity differs between small and larger businesses, but they disagree on whether it is higher or lower. A few more think it greater than less, because this is what the majority of the CPAs in the Atlanta area think.

Over the years professors of accounting and finance have believed that many businesses, particularly small ones, do not take advantage of much of the knowledge colleges and universities dispense about how to make a capital budgeting decision. If profits are to be maximized, all alternative investments must be considered and ranked on the basis of time-adjusted evaluations of their net cash inflows based on an appropriate discount rate. A majority of the respondents to the sixth question believe the average small business doesn't consider investing in anything new.

A rather common view of small businesses is that they react rather than plan. This neglect of planning can breed cash shortages, past-due receivables, excessive inventories and other troubles. If this is true, profits cannot be maximized. A majority of the respondents believe there is little or no planning by the typical small business.

Another statement frequently made about small businesses appears as the eighth question. A majority of the respondents believe that the chief cause of small business failure is poor financial management rather than market-related mistakes or problems. The response to the ninth question supports a key assumption of the questionnaire, and that is that size is an appropriate classification.

Conclusions and Recommendations

One objective of this questionnaire was to test the feasibility of obtaining a wide variety of types of information about the behavior of businesses from CPAs. It appears that CPAs, at least when anonymity is guaranteed, are a possibly quite fertile source of information on the behavior of businesses. (A recent study by the Small Business Administration participated in by the author revealed that additional and more accurate data on the bahavior of small businesses is desperately needed.)[7]

Because only 10.8 percent of the respondents believe all small businesses seek to maximize profits, it appears to be very unlikely that all small businesses seek to maximize profits. Because only 2.4 percent believe no small businesses seek to maximize profits, it is even more unlikely that all firms seek less than maximum profits. The respondents' answers provide strong support to the conclusion that many small businesses' behavior is non-profit maximizing, either because they are not seeking to maximize profits and/or do not know which steps to take in order to maximize profits. In effect, of course, there is no difference between not seeking to maximize profits and not knowing how to do so.

The wide divergence in the respondents' estimates of the relative frequency of profit maximization as the objective of the small business makes it presumptuous to draw a conclusion about the frequency of profit maximization as an objective. Clearly, too, the sample size is far too small for the results of this study to be used as a reliable indicator of the situation in the State of Georgia. Yet, the response to this study is probably at least as reliable as Herbert Simon's experiences as a consultant, which are what he used as the basis for his hypotheses that firms seek to satisfice rather than to maximize.[8] To ignore research concerning the validity of unproven assumptions because it is less precise and objective than are the models based on these assumptions would, of course, be nothing short of hypocrisy with, perhaps, a touch of intellectual snobbery. Economists should beware of letting this type of criticism hold back empirical research.

The widespread lack of interest in the economics profession in empirically verifying a fundamental postulate like profit maximization which this and other, sketchy empirical work casts doubt on suggests that the profession is following in the footsteps of classical philosophers: As long as conclusions followed logically from their hypotheses, they were satisfied. As a result, they accomplished practically nothing tangible. Tangible progress did not occur until observation and experiment became respectable. Economists should take note of the fact that the inadequacy of Newtonian concepts was revealed to physicists as a result of observation and experiment at the sub-atomic level, and that physicists insisted that their inadequacy at the macro level when velocities are high be empirically verified. It is a chimera to believe that the empirical data available to us today is adequate for our needs in any sense except that there is enough to enable us to quantify economic analysis.

Exhibit One[1]

1. Approximately what percent of small businesses have as their chief reason for existence one of the following:

Tax Shelter	4.0%	Percents are averages of
Hobby	2.1	those given by respondents
Adequate Profit	34.7	
Maximum Profit	56.6	

2. Do owner(s) of the typical small businesses adequately adjust profits for inadequate depreciation and understatement of costs of goods sold arising out of inflation, and, as a result, know what their rate of return on equity is?

Yes	14.5%
No	75.9
Do not know	9.6

3. To what extent does the typical small business client understand "user oriented" basic accounting concepts? (Examples: net income, cash flow, book value, inventory profits, owners' equity)

High degree of understanding	1.2%
Moderate degree of understanding	50.2
Very little understanding	44.6
No understanding	0.0

4. Unreported revenue causes an understatement of profits. Would you estimate by what percent the profits of the small business sector are reduced by unreported revenue?

Profits reduced by more than 20%	4.8%	Percents are
Profits reduced by from 10% to 20%	26.5	averages of
Profits reduced by less than 10%	38.6	those given by
No reduction	7.2	respondents.
Do not wish to answer or don't know	21.7	

5. Compared with the profitability of larger firms in the same industry, the average profit-seeking small business' return on equity is:

Greater	41.0%
About the same	15.7
Less	32.5
Do not know	8.4

6. Does the average profit-seeking small business owner(s) simply reinvest the funds generated by the business in what was previously invested in or are all options considered and sometimes selected?

Invests in same things	60.2%
Considers new investments	33.7
Do not know	3.6

7. Do you agree with the following characterization of the typical small business? There is little or no planning by management. They react rather than plan. Control over costs, cash, personnel, capital expenditures, and sales is inadequate.

Agree	54.2%
Disagree	42.2
Do not know	1.2

8. Do you agree that the chief cause of small business failure is poor financial management rather than being due to such things as selecting the wrong location or products, facing too much competition, etc.?

Agree	59.0%
Disagree	30.1
Do not know	10.8

9. Do you think the typical small business is more like other small businesses or more like larger firms in the same industry in terms of the major problems it faces?

More like each other	86.7%
More like larger firms in the same industry	8.4
Do not know	4.8

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[1]Figures do not add to 100% because some respondents did not answer some of the questions. The word "typical" is used to suggest mode in some questions, while others use the word "average" to convey the meaning of arithmetic mean.

Notes

1. Abraham H. Maslow, *Motivation and Personality* (New York: Harper and Row, Publishers, 1970), p. 13.

2. Fritjof Capra, The *Tao of Physics* (New York: Bantam Books, 1975) p. 3.

3. David Hamilton, *Evolutionary Economics* (Albuquerque, N.M.: University of New Mexico Press, 1970), p.4.

4. Harvey Libenstein, "A Branch of Economics is Missing: Micro-Micro Theory," *Journal of Economic Literature* 17 (June 1979), p. 478.

5. *Ibid.*, p. 494.

6. *Ibid.*, p. 497.

7. Small Business Administration, *The Environment for Entrepreneurship and Small Business* (Washington: Small Business Administration, 1981).

8. Herbert A. Simon, "Theories of Decision-Making in Economics and Behavioral Science," *American Economic Review* 49 (June 1959), pp. 253-83.

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